

REMARKS

This Amendment responds to the Office Action mailed July 14, 2005, in the above-identified application. Based on the foregoing amendments and the following comments, reconsideration and allowance of the application are respectfully requested.

Claims 1-32 and 45-50 are currently pending in the application. Claims 33-44 were previously cancelled, and claims 26, 31 and 48-50 have been withdrawn from consideration as directed to a non-elected species. By this amendment, claims 1, 7, 28 and 45 are amended, and claim 10 is canceled. The amendments find clear support in the application as filed at least in FIGS. 6, 7A and 7B, and the accompanying description at page 13, line 9 to page 14, line 2. Accordingly, claims 1-9, 12-25, 27-30, 32 and 45-47 are currently under consideration. Claims 1, 28 and 45 are independent claims.

The Examiner has rejected claims 1-5, 7-8, 11-12, 16-19, 21, 27-30 and 32 under 35 U.S.C. § 102(b) as anticipated by Nojiri (US 2001/0045670 A1). Claims 1, 2, 4, 11, 13-15, 28-29 and 45-47 are rejected under U.S.C. § 102(e) as anticipated by Chen et al. (US 6,788,507). Claims 1 and 24 are rejected under U.S.C. § 102(e) as anticipated by Ebara (US 6,858,885). Claims 9, 20, 22 and 23 are rejected under U.S.C. § 103(a) as unpatentable over Nojiri in view of Brintzinger (US 6,495,918). Claim 10 is indicated to be allowable if rewritten in independent form, including the limitations of the base claim and any intervening claims. Claim 6 is not addressed in the Office Action.

Claim 1 has been amended to specify that the first interconnections between the first and second active devices and the bond pad include at least one conductive level between the bond pad and the respective active devices, first contacts between the conductive level and a layer above the conductive level, and second contacts between the conductive level and a layer below the conductive level, wherein the first contacts are laterally offset relative to the second contacts. This feature is illustrated by way of example in FIGS. 6, 7A and 7B. As shown, bond pad 52 is connected to drain region 152 of a transistor by a connection which includes island 112 (conductive

level), first vias 200 (contacts) between island 112 and a layer 192 above island 112 and second vias 202 (contacts) between island 112 and a layer 190 below island 112. As shown, first contacts 200 are laterally offset relative to second contacts 202. This arrangement avoids direct transfer of mechanical stress, applied during bonding, from bond pad 52 to underlying structures and thus reduces the risk of damage to such structures.

The bond pad structure defined by amended claim 1 is not disclosed or suggested by the cited references. In each of Nojiri and Ebara, in-line connections between bond pads and underlying structures are disclosed. As shown in Fig. 2 of Nojiri, metal line 16 is connected to drain 8 of a transistor by vertical, in-line connections 18, 20, 22, 24 and 26. In fact, Nojiri specifically states that the via holes appear to be a single hole because they overlap in the vertical direction (see paragraph [0048]). Ebara contains a similar disclosure with respect to interconnections. See for example Fig. 5 of Ebara, which shows vertical, in-line connections between pad area 7 and N⁺ region 19c. Chen contains no disclosure as to how such interconnections are made. None of the cited references discloses contacts between different layers that are laterally offset relative to each other, as claimed. For these reasons, amended claim 1 is clearly and patentably distinguished over Nojiri, Chen and Ebara, and withdrawal of the rejections is respectfully requested.

Claims 2-9 and 11-27 depend from claim 1 and are patentable over the cited references for at least the same reasons.

Claim 28 has been amended to recite a first interconnection between the active device and the bond pad, wherein the first interconnection includes at least one conductive level between the bond pad and the active device, a first contact between the conductive level and a layer above the conductive level, and a second contact between the conductive level and a layer below the conductive level, wherein the first contact is laterally offset relative to the second contact. A similar amendment has been made to claim 45. Claims 28 and 45 are clearly patentable over Nojiri, Chen and Ebara for at least the reasons discussed above in connection with claim 1. Claims 29-32 depend from claim 28, and claims 46-50 depend from claim 45. These claims are patentable over the cited

references for at least the reasons discussed above in connection with claims 1, 28 and 45.
Accordingly, withdrawal of the rejections is respectfully requested.

Claims 1-9, 11-32 and 45-50 are in condition for allowance.

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

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Respectfully submitted,

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